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ABSTRACT

This document provides a listing of the revised sequence of mathematics skills to be taught in grades K-6 in the Lancaster (Pennsylvania) School District. For each level the individual skills are grouped into categories, listed in sequence, and cross-referenced to specific pages in three mathematics textbook series. The categories of skills relate to: (1) sets and patterns; (2) numbers, numeration, and place value; (3) addition of whole numbers; (4) measurement; (5) geometry; (6) special topics; (7) subtraction of whole numbers; (8) fractions and decimals; (9) problem solving and application; (10) multiplication of whole numbers; and (11) division of whole numbers. Included is a statement of the philosophy of the mathematics department, a list of the goals of the mathematics program, directions for the use of the guide, a note on the recommended daily time allotments for kindergarten, primary, and intermediate grades, and an explanation of the symbols, signs, and abbreviations used in the guide. (TW)

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CURRICULUM OFFICE

DEPARTMENT OF MATHEMATICS

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MATHEMATICS SKILLS SEQUENCE

K - 6

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K-6 Math Skills Distribution

	NUMBERED SKILLS	BASIC SKILLS (70)	ENRICH SKILLS (E218)	ADDITIONAL SKILLS(E28A)	TOTAL
K	1-28	27	1	1	29
1st	29-82	53	1	2	56
2nd	83-151	64	5	2	71
3rd	152-216	57	8	5	70
4th	217-288	68	4	3	75
5th	289-337	41	8	5	54
6th	338-398	41	20	1	62
TOTALS		351	47	19	417

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MATHEMATICS SKILLS SEQUENCE
K - 6

REVISED - SUMMER 1986

SCHOOL DISTRICT OF LANCASTER

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DEPARTMENT OF MATH

MATH SKILLS SEQUENCE
K-6

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Summer 1986

PHILOSOPHY OF THE MATH DEPARTMENT

In the known history of mankind, need, fear, curiosity, reward, ambition, and competition have always prevailed and dominated man's life. Ever since pedagogics became an integral part of human growth, its primary goals have been to promote, control and/or inhibit the above stated motivations and drives in order to mold the so called "well-rounded individual" generally accepted by the majority of our societies.

Considering both the innate and the acquired motivations of the human species, each of the basic educational philosophies - Perennialism, Essentialism, Progressivism and Reconstructionism - has accepted and encouraged the teaching of mathematics either as a mental discipline or a language tool for all people regardless of age, ability, or sex. One, then, can look at mathematics as a logical structure of symbols, as the acquisition of an insight about numbers, figures, and space, as a series of methods for deriving conclusions, as the essence of science about our physical world, as a body of specific knowledge necessary for effective functioning and survival in our highly technological world, or merely as an amusing intellectual activity.

The most profound questions in the realm of Philosophy have always been: What is Truth? and How does man acquire it? Although there are no definite answers to these questions, the contribution of mathematics and science toward this end has been paramount.

Regardless of where the emphasis of the teaching of mathematics is placed (Basics, Modern, or Forward to Basics), we believe that mathematics should be an integral part of our schools' curricula. Furthermore, effective teaching of mathematics in the classroom must be designed in a form of sequential, planned courses of study in order to fulfill its primary goals. These goals are: (1) to provide every child with the necessary mathematical skills which are indispensable in his/her future and (2) to arouse intellectual curiosity which is the thirst for discovery and the pursuit of gnosis; for it is highly possible that in the future the ability to ask intelligent questions will be as equally important as the ability to give the "right answers."

Harry D. Stratigos

GOALS

1. To equip the child with the mathematical skills necessary for daily life.

2. To achieve an understanding of the structure of the number system.

3. To develop skills in using the basic mathematical operations, principles, relations and functions.

4. To generate good habits of mathematical thought while at the same time developing necessary computational skills.

5. To provide problem solving activities.

6. To increase the students' appreciation of the importance of a knowledge of mathematics for intelligent and useful citizenship in our democratic society.

7. To provide children with a number of mathematical learning aids as provided by the library/media center and other sources.

8. To provide children with an awareness of the use of computers and calculators and their applications in problem solving.

MATH SKILLS LIST

Revised - June, 1986

NOTE TO TEACHERS

The curriculum team has revised the math skills sequence, taking into consideration the suggestions made by teachers and parents. Most recommendations called for moving skills up or down a grade level or changing some skills to enrichment. Skills have now been crossreferenced with three math series, copyrighted 1985. (Addison Wesley, Holt, and Houghton Mifflin).

Teachers are to teach the skills needed for their students, regardless of grade level designations. It may be necessary to move up or down levels to place the child where he/she can function competently. Enrichment skills have been included for the accelerated student. However, skills dealing with graphs such as pictographs, bar graphs, etc. are to be taught to all students regardless of the Enrichment designation (E).

Although it is not necessary to teach all the skills in the exact order of the skill sequence, because mathematics is a sequential subject the order of operations, relations, principles, functions, level and degree of problem difficulty must be followed. Teachers should use their own judgement in regard to the order in which they introduce skills.

DIRECTIONS FOR USE

Because of the diverse background of our student population, most teachers may have to begin the year with a review of a previous level as review skills have not been written into the sequence. Each pupil may not be able to cover the complete sequence for a given level every year. However, there are children who can work beyond their given grade level sequence. There are enrichment skills available to challenge accelerated students. The library/media center is a rich source of materials for the child with special interests in mathematics. Also, computers and calculators are to be used extensively with this type of student.

For accelerated sixth graders additional enrichment skills have been included in the skill sequence.

RECOMMENDED DAILY TIME ALLOTMENTS

Primary Levels -

It is recommended that a minimum of thirty-five (35) minutes be scheduled daily for the instruction of mathematics.

Intermediate levels -

It is recommended that a minimum of fifty-five (55) minutes be scheduled daily for the instruction of mathematics.

Kindergarten (K-2) -

A minimum of fifteen (15) minutes should be allotted for the instruction of mathematics.

Please note: When the school day is shortened by an early dismissal, assembly programs, etc. it is expected that the instructional period for mathematics be kept in the schedule for that shortened day. It is important that the subject of mathematics be taught every day the school is in session. It is a basic subject and should receive it's required minimal daily time allotment.

EXPLANATIONS OF SYMBOLS, SIGNS AND ABBREVIATIONS

Skills K-6 have been numbered consecutively from 1 to 398.

E - Enrichment skills for the accelerated student (there are no SAMS for these skills).

1A; 2C etc. - Indicate a break down of a skill or additional skills.

E28A - Skills marked with an E, then a number, followed by a letter are dealing with graphs such as pictographs, circle graphs, bar or line graphs, and are to be taught to all students.

Numbers such as 26; 42-43 etc. - Indicate the page or pages in the textbook (Addison Wesley, Holt, or Houghton Mifflin Series K-6) where material is correlated with skill(s). This does not necessarily mean that your teaching is restricted to this material only.

A.G. - FD - 49; A.G. - PS - 10 etc. - Indicate sections and pages that you may use in the existing Activities Guide. Although this document is no longer the main resource since it was written 9 years ago, there are some excellent activities related to the skills.

In the Activities Guide (A.G.) topics are marked as follows:

A.G. - NNPV - Activities Guide - Numbers, Numeration and Place Value
A.G. - ADD - Activities Guide - Addition
A.G. - SUB - Activities Guide - Subtraction
A.G. - MULT - Activities Guide - Multiplication
A.G. - DIV - Activities Guide - Division
A.G. - FD - Activities Guide - Fractions and Decimals
A.G. - PS - Activities Guide - Problem Solving and Applications
A.G. - MNT - Activities Guide - Measurement
A.G. - GEO - Activities Guide - Geometry
A.G. - SP - Activities Guide - Special Topics

TDA - Teacher Developed Activity means that you may use reference books, commercial kits, ditto masters or your own activities and exercises to teach a particular skill. This is necessary because of the insufficient amount of material in the textbooks and/or Activities Guide.

Finally, because the computerized class record sheets can only use three characters in the boxes, the following numbers of skills have been changed:

Skill #172A in the Skills Sequence booklet is marked 398 on the computerized sheet.

Skill #394A in the Skills Sequence booklet is marked 399 on the computerized sheet.

Skill #395A in the Skills Sequence booklet is marked 396 on the computerized sheet.

Skill #395B in the Skills Sequence booklet is marked 397 on the computerized sheet.

Please make a note of this to record the results in the appropriate box.

Level K-2

SETS AND PATTERNS	ACTIVITIES GUIDE	REFERENCES: ADDISON WESLEY	REFERENCES: HOLT	REFERENCES: HOUGHTON MIFFLIN
1. Differentiate between mathematical terms to describe size relationships. large - er - est; big - er - est small - er - est; low - er - est tall - er - est; thin - er - est long - er - est; thick - er - est short - er - est; light - er - est high - er - est; heavy - er - est	SP - 1, 2	27C-D, 27-32, 33A-B, 33-34, 41, 75B	34-42, 52	5-12
2. Differentiate between mathematical terms to describe position. first; top; between middle; on; before last; beside; after front; inside; above back; outside; below next to; column; off	SP - 1, 2	1A, 1C-D, 1-2, 3A-B, 5-6, 13-14	1-4, 11-12, 63, 66	5-12
3. Differentiate between mathematical terms to describe direction. right; in; up; over left; out; down; under	SP - 2	1A, 1D, 3-4	13-14	5-12
4. Identify patterns.	SP - 2	15A, 19A-B, 19-25	29, 30, 36	47-48, 81-82
5. Reproduce patterns.	SP - 2	15A, 19A-B, 19-25	29, 30, 36	47-48, 81-82
6. Develop patterns.	SP - 2	15A, 19A-B, 19-25	T.D.A., 30	47-48, 81-82
7. Classify objects according to physical attributes such as size, shape, color, and weight.	SP - 3	7A-B, 7-12	7-8	25-26, 67-68

Level K-2 (continued)

SETS AND PATTERNS (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
8. Identify a set of related objects.	SP - 3	7B	9-10	15-24
9. Compare equivalent sets through one-to-one correspondence.	SP - 3	15C-D, 15-18	47-48, 54	15-24
10. Compare non-equivalent sets through one-to-one correspondence.	SP - 4	35A-B, 35-49, 75A, 93A	49, 50, 52	15-24
NUMBERS, NUMERATION, PLACE VALUE				
11. Count the elements in a set from 0 - 10 and name the number of the set.	NNPV - 1, 2	43C-D, 47A-B, 43-52, 53-56, 61, 63C-D, 69A-B, 69-74, 79-80, 81C-D, 81-86	57, 59, 67, 70, 76-78, 80, 84, 86, 88-90, 92-98, 101	27-40, 45-46, 49-65, 117-128
12. Identify the numbers 0 - 10.	NNPV - 2-4	43C-D, 47A-B, 43-52, 53-56, 61, 63C-D, 69A-B, 69-74, 79-80, 81C-D, 81-86	55, 57, 59, 70, 72-74, 77, 81, 86, 89, 93, 97	21-22, 27-40, 83-89, 95-98, 117-128
13. Write the numbers from 0 - 10.	NNPV - 4	43C-D, 47A-B, 43-52, 53-56, 61, 63C-D, 69A-B, 69-74, 79-80, 81C-D, 81-86	56, 58, 61, 71, 75, 79, 82, 87, 91, 95, 99	83-96
14. Order the numbers from 1 - 10.	NNPV - 4, 5	57B, 59-61, 75B, 77, 93B, 96, 146, 154, 159	76, 83, 96, 100, 102	41-42, 65-66

Level K-2 (continued)

NUMBERS, NUMERATION, PLACE VALUE (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
15. Count sequentially from 1 - 30.	NNPV - 5	157, 158	T.D.A.	141-142
ADDITION - (WHOLE NUMBERS)				
16. Join sets with sums less than 10.	ADD - 1, 2	113C-D, 113-118	123-130	117-122
SUBTRACTION - (WHOLE NUMBERS)				
17. Remove objects from sets containing 10 or less.		119A-B, 119-127	132-137	123-128
MEASUREMENT				
18. Measure objects with non-standard units.	MNT - 1	141A-B, 141-145	T.D.A.	103-104
19. Measure objects with standard units.	MNT - 1	T.D.A.	T.D.A.	T.D.A.
20. Compare weights of objects through manipulation.	MNT - 1, 2	33B	T.D.A.	T.D.A.
21. Compare weights of objects through the use of scales.	MNT - 1, 2	33B	T.D.A.	T.D.A.
22. Compare the volume of liquids through experimentation with various containers.	MNT - 2	T.D.A.	T.D.A.	T.D.A.
GEOMETRY				
23. Identify curved and straight lines.	GEO - 1	T.D.A.	T.D.A.	T.D.A.
24. Identify the square, circle, triangle, and rectangle as basic geometry shapes.		133A-B, 133, 138, 145	23-32	75-80
E25. Identify the solid shapes, sphere, elipspod, cube, cylinder, two pyramids, rectangular solid.		129C, 129-132	18-22	69-74

Level K-2 (continued)

SPECIAL TOPICS	REFERENCES			
	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
26. Identify the penny, nickel, and dime.	SP - 1	105A-B, 105-111	67, 68, 111-118	111-114. 129-130
27. Tell the time to the hour.	SP - 1, 2	103-104, 111	149-150	T.D.A.
28. Use the calendar to identify month, day, year, date, and special holidays.	SP - 2	157-158	137-138	141
E28A. Make a bar graph.		75A, 93A, 129D, 153A	T25, T26	T.D.A.

Level 1

SETS AND PATTERNS	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
29. Count by five's to 100.	SP - 5	141	199-200, 311	154
30. Write by five's to 100.	SP - 5	141	199-200, 311	153, 154
31. Count by ten's to 100.	SP - 5	131, 132	197, 198, 311	153, 154, 344
32. Write by ten's to 100.	SP - 5	131, 132	197, 198, 311	153, 154, 344
NUMBERS, NUMERATION, PLACE VALUE				
33. Count sequentially from 1 - 100.	NNPV - 6	9, 15, 21, 25, 30, 80, 128, 134-136	133, 134, 188, 311	147-148
34. Write sequentially the numbers from 1 - 100.	NNPV - 6, 7	9, 15, 21, 25, 30, 80, 128, 134-136	188, 311	147, 148
35. Indicate verbally the ordinal position of numbers 1 - 10.	NNPV - 7	139-140	53, 54	151, 152
36. Identify a set of ten objects.	NNPV - 7, 8	113-127, 131, 132, 145, 150, 170, 194, 212	21, 22	17, 18, 130
37. Reproduce a set of ten objects.	NNPV - 7, 8	113-127, 131, 132, 145, 150, 170, 194, 212	182	17, 18, 130
38. Group a set of objects into tens and ones.	NNPV - 8	113-127, 131, 132, 145, 150, 170, 194, 212	T.D.A.	131-134
39. Identify the tens number and the ones number in a two digit number.	NNPV - 9, 10	113-127, 131, 132, 145, 150, 170, 194, 212	182-187	139-146, 344

Level 1 (continued)

NUMBERS, NUMERATION, PLACE VALUE (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
40. Write any 2 digit number given the number of tens and ones.	NNPV - 10, 11	113-127, 131, 132, 145, 150, 170, 194, 212	T.D.A.	139-146, 344
41. Identify the numbers that come before, after, and between in a sequence from 1 - 100.	NNPV - 11	26, 129-130	188-192	147, 148
42. Differentiate between the larger and smaller of two numbers (one or two digits).	NNPV - 12	27, 28, 137, 138	193, 194, 203, 204	137, 138
43. Identify the > < symbols.	NNPV - 12	T.D.A.	T.D.A.	159
44. Identify the relationship between two numbers by placing the appropriate symbol (> <) between them.	NNPV - 12	T.D.A.	T.D.A.	149, 150
45. Read the number names from zero to ten.	NNPV - 13	3, 5, 7, 11, 13, 17, 46	52	6-18. 130-134, 139-148
ADDITION - (WHOLE NUMBERS)				
46. Join sets, identifying the numbers of objects in the sets being joined.	ADD - 2	33, 34	32-37	31-35
47. Identify the + and = signs.	ADD - 3	35	33, 35, 36	33, 34, 69, 70
48. Perform the operation of addition in vertical and horizontal forms, with sums less than 10.	ADD - 3-6	35-44, 46, 50, 51, 67, 68, 72, 74-91, 94, 98, 105, 106, 110, 118, 122, 130, 134, 144, 156, 173-196, 202, 219-222, 224, 246, 290, 316	35-41, 43-51, 55, 56, 82-89, 102, 222, 302	35-46, 75-78, 83-84, 87-88, 105-108, 113, 114, 340

Level 1 (continued)

	REFERENCES			
ADDITION - (WHOLE NUMBERS) (continued)	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
49. Discover, through manipulation, that the order of addends does not affect the sum.	ADD - 6	39, 293-294	37-40, 43-44, 47-48, 49-50, 302	41, 77, 84, 107 209, 215
50. Recite the addition facts from 0 - 5 from memory.	ADD - 6, 7	33-44, 46, 50-52, 67, 68, 72, 74, 86, 90, 218	35-41, 43-51, 55, 56, 82-89, 102, 222, 302	35-46, 340
51. Write the addition facts from 0 - 5 from memory.	ADD - 6, 7	33-44, 46, 50-52, 67, 68, 72, 74, 86, 90, 218	39-41, 56	35-46, 340
SUBTRACTION - (WHOLE NUMBERS)				
52. Separate sets, identifying the number of objects in the sets being separated.	SUB - 1	53, 54	57-60, 103	55-58
53. Identify the - sign.	SUB - 1, 2	55	61, 62	57, 58, 69, 70, 103
54. Perform the operation of subtraction in vertical and horizontal form, with minuends less than 10.	SUB -2, 3, 4	53-64, 66-68, 73, 74, 86, 90, 93-106, 110, 111, 116, 122, 130, 134, 144, 162, 166, 170, 184, 197-223, 225, 234, 236, 238, 246, 288, 290, 308, 316, 318	62-67, 69-71, 73-80, 90, 104-111, 119, 303	59-68, 79-82, 85-88, 109-112, 115-118, 341-343
55. Use manipulation to show that subtraction is the inverse operation of addition.	SUB - 4	70, 291-292	113-117	87, 117, 118
56. Recite subtraction facts from 0 - 5 from memory.	SUB - 4, 5	53-68	58-70, 303	59-65

Level 1 (continued)

SUBTRACTION - (WHOLE NUMBERS) (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
57. Write subtraction facts from 0 - 5 from memory.	SUB - 4, 5	53-64	62-67, 71	59-65
FRACTIONS, DECIMALS				
58. Identify the fractional part, one-half.	FD - 1	303, 304, 309, 310	263-264, 269, 273, 284	291-292
59. Identify the fractional part, one-quarter.	FD - 1	307-310	267-269, 273, 284	295, 296
60. Divide an object into halves.	FD - 1	303, 304, 309, 310	T.D.A.	291-292
61. Divide an object into fourths.	FD - 1	307-310	T.D.A.	295, 296
MEASUREMENT				
62. Use the centimeter unit to measure and report the length of an object.	MMT - 3, 4	270-276, 281, 283, 284	167-168	233, 234, 338
63. Use the inch unit to measure and report the length of an object.	MMT - 4, 5	311-312	233-234, 238	235, 236
GEOMETRY				
64. Identify these geometric shapes - circle, square, rectangle, and triangle.	GEO - 3, 4	229-240, 243, 247, 282	153-156, 159-161	283-286, 334
65. Reproduce these geometric shapes - circle, square, rectangle, and triangle.	GEO - 3, 4	235, 236	153-156, 178	T.D.A.
66. Identify whether a given figure is open or closed.	GEO - 4	T.D.A.	T.D.A.	T.D.A.
67. Compare the size of geometric shapes.	GEO - 4	237, 238	177	T.D.A.

Level 1 (continued)

SPECIAL TOPICS	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
68. Reproduce the ¢ sign.	SP - 3	23	139-140	19, 20, 91, 92, 161-168, 201, 203, 206, 342, 343, 345
69. Identify a penny, nickel, and dime.	SP - 3	23, 159, 160, 161	139-142	19, 20, 91, 92, 101, 161-168, 201, 203, 206, 339, 342, 345
70. Identify the value of a penny, nickel, and dime.	SP - 3	23, 159, 160, 161	139-141, 145-146	19, 20, 91, 92, 101, 161-168, 201, 203, 206, 339, 342, 345
71. Compute the value of a collection of pennies, nickels and dimes to 50¢.	SP - 4	23, 24, 30, 75, 76, 93, 94, 159-172, 178, 194, 224, 244, 252	145-148, 162	19, 20, 91, 92, 101, 161-168, 201, 203, 206, 339, 342, 345
72. Identify and reproduce the numbers on a clock face.	SP - 4, 5	147, 148	95-98, 305	182
73. Differentiate between the hour and minute hands.	SP - 5	147, 148	95-96	182
74. Tell the time by the hour.	SP - 5, 6	147-156, 171, 176, 194, 216, 224, 240, 274	91-94, 97-98, 102, 277-278	181-186, 191, 192, 205, 333, 346
75. Tell the time by the half-hour.	SP - 5, 6	153-156, 171, 176, 194, 224	275-280, 284, 299	187-192, 205, 333, 346
76. Write the time by the hour.	SP - 6	147-156, 176, 194, 216, 224, 240, 260, 274	91-96, 102, 196	181-186, 191, 192, 205, 333, 346

Level 1

SPECIAL TOPICS (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
77. Write the time by the half-hour.	SP - 6	153-156, 176, 194, 224, 260	275-280, 284, 299	187-192, 205, 333, 346
78. Tell the number of days in a week.	SP - 6, 7	157, 158	137-138	193-194
79. Tell the number of months in a year.	SP - 6, 7	T.D.A.	T.D.A.	T.D.A.
80. Say the days of the week.	SP - 7	157, 158	137-138	193, 194
81. Say the months of the year.	SP - 7	T.D.A.	T.D.A.	T.D.A.
E82. Complete a simple picture graph.		226	27-28	176
E82A. Make bar graphs.		241, 242, 243, 22	208	156
E82B. Locate points on a grid.		300	T.D.A.	T.D.A.

Level 2

REFERENCES

SETS AND PATTERNS	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
83. Count by two's.	SP - 5	51, 53-54, 63, 92	15, 67, 80	308
E84. Complete simple skip counting sequences.	SP - 6	51-54, 63, 92	15-16, 67-69, 71, 80, 226, 235-236	54, 56, 247, 308, 315
NUMBERS, NUMERATION, PLACE VALUE				
85. Identify and read the ordinal numbers from first to tenth.	NNPV - 14	57-59, 92	122, 124	39-40, 118
86. Identify the hundreds number, the tens number, and the ones number in a three digit number.	NNPV - 14, 15	247-252, 255-256, 267, 288	59-61, 227-230	242-246, 348
87. Read any three digit number.	NNPV - 16	247-252	227-230	242-246, 348
88. Write any three digit number given the number of hundreds, tens, and ones.	NNPV - 17, 18	247-254, 267-268, 272, 310, 336	227-230, 240	242-246, 348
89. Identify and use zero as a place holder.	NNPV - 18	35-36, 38, 42, 63, 159-160, 249-256, 267, 310	227-230, 240	242-246, 348
90. Count from 0 - 500 in sequence.	NNPV - 19, 20	47-50, 56, 63, 257-258, 268, 288	109, 255, 272	247-248, 348
91. Write the numbers from 0 - 500 in sequence.	NNPV - 20	47-50, 63, 257-258, 268, 288	109, 231-232, 255, 272	247-248, 348
92. Identify and write the numbers that come before, after, and between in a sequence from 1 - 500.	NNPV - 20,21	45-46, 50, 63	63-64, 71, 80 231-232, 240, 272	38, 45, 211, 340

Level 2 (continued)

NUMBERS, NUMERATION, PLACE VALUE (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
93. Differentiate between larger and smaller of two three-digit numbers.	NNPV - 22, 23	259-260, 263	237-240, 255	263
94. Differentiate between larger and smaller of two three-digit numbers using inequality symbols. ><		263	237-240, 255	263
95. Differentiate between larger and smaller mathematical statements using inequality symbols. ><		56	130	331
96. Arrange groups of one, two, or three digit numbers in size from the smallest to largest.	NNPV - 23, 24	56, 254	T.D.A.	T.D.A.
E97. Identify and reproduce the Roman Numerals from 1-12.	NNPV - 21	64	T.D.A.	T.D.A.
E98. Identify odd and even numbers to 100.	NNPV - 22	53-54, 122	72	51-52, 211
ADDITION - (WHOLE NUMBERS)				
99. Demonstrate a knowledge of the mathematical terms sum and addend.		3	T.D.A.	T.D.A.
100. Perform the operation of addition in vertical and horizontal form with sums less than 18.	ADD - 8, 9	3-12, 25-26, 30-32, 62, 65-75, 77-83, 85-87, 89, 93-94, 116-117, 119, 150	24-26, 29-30, 33-34, 37-39, 114-118, 136-138, 150, 311	77-78, 83, 92, 95-96, 101-102, 192, 341-342
101. Demonstrate that the order of the addends does not affect the sum.	ADD - 10, 11	8	27-28	10, 19, 67, 77, 92, 95, 107-108
102. Demonstrate that the grouping of addends, marked by parentheses, does not affect the sum.	ADD - 12	T.D.A.	T.D.A.	T.D.A.

Level 2

ADDITION - (WHOLE NUMBERS) (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
103. Determine the missing addends in an addition problem without regrouping.	ADD - 13 SUB - 6, 7	81, 108	48	26
104. Recite the basic addition facts from 0 - 10 from memory.	ADD - 14	3-12, 18, 25-26, 30-31, 65-68	24-39, 46, 66	7-10, 15, 17-20, 25-26, 339
105. Write the basic addition facts from 0 to 10 from memory.	ADD - 14	3-12, 18, 25-26, 30-32, 65-68	24-39, 46, 66	7-10, 15, 17-20, 25-26, 339
106. Recite the basic addition facts from 11 to 18 from memory.	ADD - 15, 16	69-75, 77-83, 87, 89, 92-94, 112, 116-117, 119, 122, 150, 200	114-116, 136-140, 143, 156 206, 311, 313	77-78, 92, 95-96, 99-102, 105-106, 192, 211, 341-342
107. Write the basic addition facts from 11 to 18 from memory.	ADD - 15, 16	69-75, 77-83, 87, 89, 92-94, 112, 116-117, 119, 122, 150, 200	114-116, 136-140, 143, 156 206, 311, 313	77-78, 92, 95-96, 99-102, 105-106, 192, 211, 341-342
108. Add multiples of 10 and 100.	ADD - 16, 17	154, 270	85-86, 261	169-170, 211, 345
109. Perform the operation of addition with two digit numbers in vertical form without regrouping.	ADD - 17	153-155	84-89, 99-100, 112, 144, 191-192, 307	171-174, 181-182
110. Perform the operation of addition with three digit numbers in vertical form without regrouping.	ADD - 18	269-270, 274	260-261, 263-264, 271, 281-282, 296, 318	249-250

Level 2 (continued)

ADDITION - (WHOLE NUMBERS)	REFERENCES			
	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
111. Solve addition problems requiring regrouping of tens and ones.	ADD - 18, 19	161-163, 165-171, 173, 177, 180, 190, 194, 216-218, 222, 252, 262, 268, 275-278, 282, 289, 292, 302, 312, 320, 336	158-165, 167-168, 170, 189-190, 234, 315	251-252, 257-258, 348
E112. Complete matrix charts in addition.	ADD - 19, 20	T.D.A.	140	341A, 342A
SUBTRACTION - (WHOLE NUMBERS)				
113. Demonstrate a knowledge of the mathematical term, difference.		15	T.D.A.	T.D.A.
114. Perform the operation of subtraction in vertical and horizontal form where the minuend is not more than 18.		15-16, 30, 31-32, 38, 40, 52, 62, 72, 75, 95-123, 130, 138, 144, 150, 158, 162, 176, 204, 236	47, 49-56, 70, 81, 125-132, 312	79-82, 84, 87-88, 90, 93-94, 97-100, 103-106, 108, 112, 114, 341-342
115. Recite basic subtraction facts from 0 - 10 from memory.		15-26, 30, 31-32, 38, 40, 52, 72, 95-100, 162	47, 49-56, 70, 81	11-16, 21-26, 28-32, 339
116. Write basic subtraction facts from 0 - 10 from memory.		15-26, 30, 31-32, 38, 40, 52, 62, 72, 95-100, 162	42-45, 47, 49-56, 70, 81	11-16, 21-26, 28-32, 339

Level 2 (continued)

SUBTRACTION - (WHOLE NUMBERS)	REFERENCES			
	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
117. Recite basic subtraction facts from 11 - 18 from memory.		15-26, 40, 62, 72, 75, 101-119, 130, 138, 144, 150, 158, 162, 176, 204, 236	125-132, 145-154, 156, 206, 312, 314	79-82, 84, 87-88, 90, 93-94, 97-100, 103-106, 108, 111-112, 114, 212, 240, 341-342
118. Write basic subtraction facts from 11 - 18 from memory.		15-26, 40, 62, 72, 75, 101-119, 130, 138, 144, 150, 158, 162, 176, 204, 236	125-132, 145-154, 156, 206, 312, 314	79-82, 84, 87-88, 90, 93-94, 97-100, 103-106, 108, 111-112, 114, 212, 240, 341-342
119. Show the relationship between addition and subtraction.		103, 107, 199	149, 151-154, 179	75, 99, 233-234
120. Perform the operation of subtraction with two digit numbers in vertical form without regrouping.	SUB - 7	197-200	101-107, 112, 191-192, 310	177-182, 184-188, 345
121. Perform the operation of subtraction with three digit numbers in vertical form without regrouping.	SUB - 7, 8	271-272, 274	273-282, 296, 319	253-254, 257-258, 348
122. Solve two digit subtraction problems requiring regrouping.	SUB - 8	207-211, 213, 216-218, 223, 228, 244, 252, 262, 266, 268, 302, 312, 336	173-179, 181-182, 189-190, 234, 316	223-230, 233-234, 238, 347
FRACTIONS, DECIMALS				
123. Identify the fraction part of 1/3.	FD - 2	313-322	241-248, 258	287-288, 291-292, 295-296, 350
124. Divide an object into thirds.	FD - 2	313-322	245, 255	295-296, 350

Level 2 (continued)

FRACTIONS, DECIMALS (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
125. Divide a set into halves.		313-322	245, 255	286, 290, 295-296, 350
126. Write the fractions corresponding to the fractional parts: one-half, one-third, and one-fourth.	FD - 2	313-322	244, 246-248, 256	286-296, 350
PROBLEM SOLVING AND APPLICATION				
127. Identify the known and unknown facts in a statement problem.	PS - 1	13-14, 27-28, 76, 84, 88, 90, 109-110, 114, 118, 120, 124, 147, 148, 156, 164, 172, 174, 212, 214-215, 219, 273, 284-286, 304, 306	320	T.D.A.
128. Identify the operation to be used to solve statement problems.	PS - 1	13-14, 27-28, 76, 84, 88, 90, 109-110, 114, 118, 120, 124, 147, 148, 156, 164, 172, 212, 214-215, 219, 273, 284-286, 304, 306	90, 131-132, 257, 320	59-60, 117-118, 141-142, 185-186, 235-236, 259-260
129. Solve word problems based on basic addition and subtraction facts.	PS - 1, 2	13-14, 27-28, 76, 84, 88, 90, 109-110, 114, 118, 120, 124, 147, 148, 156, 164, 172, 212, 214-215, 219, 273, 284-286, 304, 306	35, 131-132, 151-152, 181-182, 281, 294	115, 120, 217, 337-338

Level 2 (continued)

MEASUREMENT		REFERENCES			
		ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
130.	Identify appropriate unit of linear measure within the metric system (meter, decimeter, and centimeter).		235-236	T.D.A.	167
131.	Use metric units of linear measure (meter, decimeter, and centimeter).	MNT - 6, 10	227-234, 245, 288	211-214	149-152, 166, 344
132.	Show the relationship between the units of linear measure within the metric system (meter, decimeter, and centimeter).		235-236	214	167
133.	Identify appropriate unit of linear measure within the English system (inch, foot, and yard).		T.D.A.	251	T.D.A.
134.	Use English units of linear measure (inch, foot, and yard).	MNT 6, 7	323-327, 335	249-251	153-154, 344
135.	Show the relationship between the units of linear measure within the English system (inch, foot, and yard).		T.D.A.	251	T.D.A.
136.	Use the kilogram as a metric measure of mass to determine weights of objects.	MNT - 7	241-243	218	275-276, 278
137.	Use the pound as a measure of weight to determine weights of objects.	MNT - 7, 8	331	254	277-278
138.	Use the liter as metric measure of capacity.	MNT - 8	239	216	157-158
139.	Identify the cup, pint, and quart as units of capacity.	MNT - 8	329-330	252-253	159-162, 344
140.	Use the cup, pint, and quart to measure capacity.	MNT - 8, 9	329-330	252-253	159-162
GEOMETRY					
E141.	Identify and reproduce points and line segments and use these basic figures to construct familiar geometric shapes.	GEO - 5	183	T.D.A.	T.D.A.

Level 2 (continued)

SPECIAL TOPICS	REFERENCES			
	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
142. Interpret a simple bar graph.	SP - 8	187-190, 312	19-20, 36, 111	163-164, 213
E142A. Interpret a pictograph.		191-192, 330	17-18	109-110, 117
E142B. Write an ordered pair of numbers for a point on a grid.		196	266	T.D.A.
143. Identify the value of the quarter, half-dollar, and dollar.	SP - 9	141-146	75, 183, 185	123-128, 333, 343
144. Identify sets of coins that are equivalent to a quarter.		141	75	125-126
145. Identify sets of coins that are equivalent to a half-dollar.		143	183, 186	123-125
146. Compute and write the value of any collection of coins less than $1.00.	SP - 9, 10	41-42, 46, 106, 137-146, 151, 158, 176, 186, 194, 198, 258, 276, 296	73-76, 183-184, 306, 317	53-58, 119, 122-128, 333, 340, 343
147. Combine two sets of coins to find their total value (less than $1.00).	SP - 10, 11	41-42	186	55-58
148. Use the cent sign in addition and subtraction of money with amounts less than a dollar and without regrouping.		70, 90, 147, 156, 194, 212, 219-220, 234, 300	78-80, 187-188	174, 178, 180, 228, 345
149. Compute the change to be received when given an item to buy and coins with a value of 25¢ or less.	SP - 11	T.D.A.	78-79, 187-188	56
150. Tell time to the 5 minute interval.	SP - 12	125-132, 151, 160, 176, 216, 328	93-98, 112, 206, 234, 267-271, 296, 308, 309	131-138, 215, 239, 343

Level 2 (continued)

SPECIAL TOPICS (continued)	REFERENCES			
	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
151. Name the number of hours in a day and the number of minutes in an hour.	SP - 13	T.D.A.	T.D.A.	T.D.A.

Level 3

SETS AND PATTERNS	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
E152. Identify the pattern in an incomplete one, two, three, four-digit number sequence and complete it.	SP - 7	47, 73, 109, 155, 179	37, 39, 60	T.D.A.
NUMBERS, NUMERATION, PLACE VALUE				
153. Write the ordinal numbers from first to tenth.	NNPV - 25	48-49, 128-129	30, 31	28-29
154. Identify the thousands, hundreds, tens, and ones in a four-digit number.	NNPV - 25	26-29, 37, 91, 41-43, 46-47, 52, 69, 77, 88, 91, 97, 120, 165, 180	38-39-40-41, 341	39, 47, 380-381
155. Read any four-digit number.	NNPV - 26, 27	26-29, 42-43, 46-47, 52, 77, 88, 120, 180, 328-331	38, 341	46-47, 116, 380-381
156. Write any four-digit number given the thousands, hundreds, tens, and ones.	NNPV - 27, 28	26-29, 42-43, 46-47, 52, 77, 88, 120, 180, 328-331	38-41, 56, 341	46-47, 116, 380-381
157. Count in sequence to 1,000.	NNPV - 30	30-33, 88	T.D.A.	46-47, 116, 380-381
158. Write in sequence to 1,000.		30-33, 88	T.D.A.	46-47, 116, 380-381
159. Identify and write the numbers that come before, after and between in a sequence from 1 to 1,000.	NNPV - 31	31, 365B	T.D.A.	T.D.A.
160. Identify every number as being odd or even.	NNPV - 34	32, 84	42	211, 392-393

Level 3 (continued)

NUMBERS, NUMERATION, PLACE VALUE (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
161. Differentiate between larger and smaller of four digit numbers.		44-45, 52, 63, 365A	48-49, 274-275	48-49, 114-117, 380-381
162. Differentiate between larger and smaller of four digit numbers using inequality symbols. > <		44-45, 52, 63, 367A, 368A	48-49, 55, 56, 342	49, 380-381
163. Differentiate between larger and smaller mathematical statements using inequality symbols. > <		44-45, 52, 63, 120, 367A, 368A	48-49, 274-275	36, 42, 48
164. Arrange four digit numbers in size from smallest to largest.	NNPV - 34, 35	44-45	48-49, 274-275	48-49, 114-117, 380-381
165. Write number words up to 100.		27	36-37, 43, 341	T.D.A.
E166. Identify and reproduce the Roman numerals to 100.	NNPV - 32, 33	53	T.D.A.	57
ADDITION - (WHOLE NUMBERS)				
167. Perform the operation of addition with four-digit numbers in vertical form and no regrouping.	ADD - 21	60-63, 66-69, 72-77, 80-81, 86, 95, 120, 152, 159, 200, 231	83	T.D.A.
168. Solve addition problems with regrouping of one, tens, hundreds, and thousands.	ADD - 22, 23	60-63, 66-69, 72-77, 80-81, 86, 95, 120, 152, 159, 367A, 367B	76-86, 346, 347	126-127, 386-387

Level 3 (continued)

SUBTRACTION - (WHOLE NUMBERS)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
169. Perform operation of subtraction with four digit numbers in vertical form and no regrouping.		T.D.A.	T.D.A.	T.D.A.
170. Prove the solution of a subtraction problem through the inverse operation of addition.	SUB - 9, 10	100-101	96	94, 137, 384-387
171. Solve three digit subtraction problems requiring regrouping of hundreds, tens, and ones.	SUB - 8, 11	92-101, 104-112, 118, 159, 126, 180, 226, 283, 372B, 373A, 373B, 374A-B	98-100, 104-108, 348, 349	128-135, 386-387
172. Perform the operation of subtraction with regrouping of ones, tens, hundreds, and thousands.	SUB - 11	112-113	112-113, 115-116, 350	136-137, 386-387
172A. Use regrouping to solve subtraction problems of four digits with one zero in the minuend.		104-105, 373B	113, 115-116, 350	136-137
MULTIPLICATION - (WHOLE NUMBERS)				
173. Solve multiplication statements through repeated addition using factors 2, 3, 4, 5.	MULT - 1	154-155	120	180-181, 184, 390-391
174. Demonstrate a knowledge of the mathematical terms factor and product.		158	121, 153	182-183, 390
175. Identify the multiplication sign (x).		156-157	120	180-181, 184, 390, 391
176. Use one as a factor in multiplication.		170	130-131, 352	222, 392, 393
177. Use zero as a factor in multiplication.	MULT - 2	170	130-131, 352	222, 392, 393

Level 3 (continued)

MULTIPLICATION - (WHOLE NUMBERS) (continued)	REFERENCES			
	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
178. Recite from memory multiplication facts from 1 to 5 X 10.	MULT - 5-7, 12	158-161, 163-167, 169, 177, 376A-B-C, 377A	121-124, 128-134, 136-139, 143-144, 252-253, 351, 353	182-191, 208-215, 224-225, 390-393
179. Write from memory multiplication facts from 1 to 5 X 10.	MULT - 5-12	158-161, 163-167, 169, 177, 376A-B-C, 377A	121-124, 128-134, 136-139, 143-144, 152, 252-253, 351, 353	182-191, 208-215, 224-225, 390-393
180. Demonstrate that the order of the factors does not affect the product.	MULT - 2, 3	172	128-130, 352	186-187, 212, 390-393
181. Demonstrate that the grouping of factors does not affect the product.	MULT - 4	190, 378C	140-141	T.D.A.
182. Compute products where one factor is 10 or 100.	MULT - 13	270-271	207, 216-217, 357	266-267, 396-397
183. Compute products involving multiples or 10.	MULT - 14	270-271, 314	207	266-267, 396-397
184. Multiply a two or three digit factor by a one digit factor 5 or less, without regrouping.	MULT - 14-16	272, 276-281, 283-284, 290, 314, 329, 382A-B-C	208-209, 218-219, 356, 357	268-269, 276-279, 396-397
185. Multiply a two or three digit factor by a one digit factor 5 or less with regrouping.	MULT - 14-16	272, 276-281, 283-284, 290, 314, 329, 382A-B-C	210-212, 220-227, 356, 358, 359	270-275, 396-397
E186. Break apart a factor into two subsets and multiply both by the other factor. EX: 6 X3 = (3 X 3) + (3 X 3)		190	141	T.D.A.

Level 3 (continued)

	REFERENCES			
FRACTIONS, DECIMALS	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
187. Identify fractional parts of a whole up to 6/6.	FD - 3	316-319, 340, 349, 358	262-265, 270, 279-280	316-317, 318-319, 400-401
188. Write fractional parts of a whole up to 6/6.	FD - 3	316-319, 340, 349, 358	262-265, 269-270, 279-280	316-317, 324-325, 400-401
189. Divide a set into thirds.	FD - 2	320-322	262-270	320-321, 324-325, 400-401
190. Divide a set into fourths.		320-323, 326-327	262-270	320-321, 400-401
PROBLEM SOLVING AND APPLICATION				
191. Write a statement problem in a mathematical sentence.	PS - 3	14-15, 82-83, 174-175	46-47, 72-73, 114, 244, 342, 345, 360	362-363, 403
192. Solve statement problems based on multiplication facts up to 5 X 10.	PS - 4	162, 168, 174-175, 188, 194	123, 129, 133, 137, 168, 211, 215, 217	185, 191, 200-201, 215, 237, 258-259, 390-391, 393, 395
MEASUREMENT				
193. Identify appropriate units of linear measure within the metric system (centimeter, decimeter, and meter).	MNT - 10	131-135, 145, 157, 200	174-177	156-159, 345, 388-389
194. Use metric unit of linear measure (centimeter, decimeter, and meter) to estimate lengths.	MNT - 10	131-135, 145, 157, 200	174-177	156-163, 388
195. Show relationships within the metric system of linear measure (centimeter, decimeter, and meter).		131-135, 145, 157, 200	176, 213	156-163, 388

Level 3 (continued)

MEASUREMENT (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
196. Identify best unit of linear measure within the English system (inch, foot, and yard).	MNT - 11	34 -349, 356, 358	194-199	166-167, 388-389
197. Use English unit of measure, (inch, foot, and yard) to estimate lengths.	MNT - 11	346-349, 356, 358	194-199	166-167, 388-389
198. Show relationships within the English system of linear measure (inch, foot, and yard).		346-349, 356, 358	194-199	164-167
199. Identify appropriate unit of mass within the metric system (kilogram and gram).		143, 145	179, 181	162-163, 388-389
200. Use the kilogram and gram as metric units of mass.	MNT - 11, 12	143, 145	179	162-163, 388-389
201. Identify appropriate unit of weight within the English system (pound and ounce).		352, 358	198	168-169, 388-389
202. Use the pound and ounce English units of weight.	MNT - 12	352, 358	198	168-169, 388-389
203. Compare equivalents of a cup, pint, quart, half-gallon and gallon.	MNT - 13, 14	350-351, 358	197	170-171, 388
GEOMETRY				
E204. Identify and use the line and ray as basic figures in geometry.		T.D.A.	284-287	T.D.A.
E205. Identify and use parallel lines.	GEO - 7	T.D.A.	284-285	T.D.A.
E206. Identify a parlallelogram, rhombus, square, and rectangle.		204-205	284-285, 301-302	344, 402-403
E207. Draw a parallelogram, rhombus, square, and rectangle.	GEO - 8, 9	204-205	284-285	344, 402-403

Level 3 (continued)

SPECIAL TOPICS		REFERENCES			
		ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
208.	Identify and reproduce the dollar sign and decimal point.		36-37, 366A	34-35, 43	40-41, 380
209.	Place the decimal point between the dollars and cents.	SP - 14	36-37, 366A	34-35, 43	40-41. 74-75, 380, 382-383
210.	Compute and write the value of a collection of money over $1.00.	SP - 15	36-37, 366A	34-35, 142	40-41, 380-381
211.	Identify sets of coins that equivalent to $1.00.		36-37, 366A	34-35	T.D.A.
212.	Figure out the change to be received when given an item and coins 50¢ or less.	SP - 16, 17	34-35	108-109	98-99, 139, 384-385
213.	Write time in time notation to the five minute interval.	SP - 17, 18	124-125, 127	20-23, 101, 185, 191	150-151, 388-389
214.	Identify relationships between days, weeks, and months.	SP - 19	128-129	30-31	29, 53, 91, 116, 117, 137, 244, 381, 384-385, 386-387
215.	Differentiate between a.m. and p.m.		126-127	T.D.A.	152-153, 388-389
E216.	Locate an object or point on a grid system by following a pattern of over and up to find coordinates for a number pair.	SP - 20, 21	218-219, 223	T.D.A.	84-85
E216A.	Read and make pictographs.		216, 217, 282	306	204-205, 267, 398-399
E216B.	Read and make bar graphs.		64, 78, 145, 214, 215, 267	308	226-227, 393
E216C.	Read and interpret circle graphs.		T.D.A.	312	341
E216D.	To use number pairs to locate and name points on the coordinate plane.		218, 219, 223	T.D.A.	376

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Level 4

SETS AND PATTERNS	ACTIVITIES GUIDE	REFERENCES: ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
217. Complete skip counting sequences (number patterns).	SP - 8	40-41, 90, 92, 257	18, 19, 21, 71	100, 104, 132, 138
E218. Construct skip counting sequences.		40-41, 90, 92, 257	18, 19, 21, 22, 71	T.D.A.
NUMBERS, NUMERATION, PLACE VALUE				
219. Round off numbers to the nearest 10's.	NNPV - 36	30, 31, 46, 106, 390	42-43, 47, 71, 72, 187, 372	68-71, 228, 288-289, 305
220. Round off numbers to the nearest 100's.	NNPV - 36	30, 31, 46, 106, 158, 390	42-43, 47, 48, 71, 72, 187, 372	68-71, 125-126, 288-289
221. Round off numbers to the nearest 1000's.	NNPV - 36	30-33, 46, 106, 158, 390	44, 47, 48, 72, 372	68-71
222. Identify the commas used to separate number families in a five or more digit number.		T.D.A.	32, 33	T.D.A.
223. Place commas in a five or more digit number.	NNPV - 39	T.D.A.	32, 33	T.D.A.
224. Read any number up to nine digits.		24-27, 34-35, 38-39, 46, 80, 158, 389, 390	T.D.A.	T.D.A.
225. Write any number up to nine digits.		25, 27, 35, 39, 46, 80, 158	32-34	18-21, 26-29, 33, 377-378
226. Identify place values in numbers up to seven digits.	NNPV - 36-39	24, 26, 389, 390	30-34, 370	18-21, 26-29, 377-378

Level 4 (continued)

NUMBERS, NUMERATION, PLACE VALUE (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
227. Write any number up to seven digits when given the place values.		25, 27, 35, 39, 46, 80, 158	30-34, 370	18-21, 26-29, 66, 377-378
228. Differentiate between the larger and smaller of five to nine digit numbers.	NNPV - 40-41	28, 29, 36, 46, 59, 80, 247, 390, 391	40-41, 47, 48	22-23, 33, 36
ADDITION - (WHOLE NUMBERS)				
229. Use the grouping principle to solve column addition.		12, 13, 18, 41, 48, 60, 61, 78, 80, 106, 149, 301, 389	54-55, 372	10-11, 46-47, 63, 66
230. Add multi-digit addends without regrouping.		T.D.A.	T.D.A.	38-39, 63, 380-381
231. Add multi-digit addends with regrouping.	ADD - 24-27	50-53, 54, 55, 78-79, 87, 106, 149, 301, 392, 393, 394	53, 56-64, 75, 76, 94, 373, 374	40-45, 47, 63, 380-381
SUBTRACTION - (WHOLE NUMBERS)				
232. Use regrouping to solve multi-digit problems in subtraction (without zeros in the minuend).		62-65, 68-71, 78, 87, 128, 149, 188, 331, 394	82-87, 376, 377	50-53, 56-57, 63, 380-381
233. Use regrouping to solve multi-digit problems in subtraction with one or more zeros in the minuend.	SUB - 11-16	68-69, 395	88-90, 101, 102, 379	54-55, 63, 380-381

Level 4 (continued

	REFERENCES			
MULTIPLICATION - (WHOLE NUMBERS)	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
234. Calculate multiplication facts through 10 X 10 using repeated addition.	MULT - 17	T.D.A.	106-107, 379, 381	98-99
235. Recite from memory the multiplication facts through 10 X 10.	MULT - 17-19	82-87, 93, 95, 97, 101, 102, 158, 163, 397, 398	108-110, 112-117, 119, 137, 138	100-105, 130-137, 384-385
236. Write from memory the multiplication facts through 10 X 10.	MULT - 17, 18	82-87, 93, 97, 102, 163, 177, 218, 397, 398	108-110, 112-117, 119, 137, 138, 153	100-105, 117, 130-137, 384-385
237. Multiply a multiple of 100 or 1000 by a single digit.	MULT - 20	160-162	177, 192	216-217, 392-393
238. Multiply any three or four digit number of any one digit factor.	MULT - 21	166-173, 178-179, 185, 186, 195, 244, 292, 309, 402	180-186, 201, 202, 231, 382	224-227, 230-231, 392-393
239. Multiply two 2 digit factors.	MULT - 22-23	294-297, 300-304, 306-309, 314, 323, 340, 410, 411	192-193, 194-195, 196-197, 201, 202, 231, 385	274-281, 396
240. Multiply a three digit factor by a two digit factor.	MULT - 23-24	306-307, 314, 323	198-199, 201, 202, 231, 385	282-285, 396-397
DIVISION - (WHOLE NUMBERS)				
241. Identify the division sign.		108	T.D.A.	T.D.A.
242. Solve division statements through repeated subtraction.	DIV - 1, 5	T.D.A.	124-125	106-107
243. Coordinate vocabulary with division processes (Divisor, Dividend, Quotient, Remainder).		108	124	106

Level 4 (continued)

DIVISION - (WHOLE NUMBERS) (continued)		REFERENCES		
	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
244. Demonstrate the relationship between division and multiplication using factor equations.	DIV - 1	110-111, 398	128-129, 130, 132	112-113, 140, 142
245. Identify the special property of zero as a dividend. (Also, show that division by zero is undefined).		112	135	112
246. Identify the special properties of one in division.		112	126-127	111
247. Recite the basic division facts from memory.	DIV - 2-3	108-112, 116-120, 125, 126, 141, 398, 399	126-127, 129-133, 137, 138, 163, 380, 381	108-113, 140-145, 384-387
248. Write the basic division facts from memory.		108-112, 116-120, 125, 126, 141, 398, 399	126-127, 129-133, 137, 138, 163, 380, 381	108-113, 140-145, 384-387
249. Calculate quotients with no remainder in which the divisor is a one digit number and the dividend is 2, 3, or 4 digits with no zeros in the quotient.	DIV - 3-4	T.D.A.	212-213, 230, 386, 387	250-251, 256-257, 260-261, 394-395
250. Calculate quotients with a zero and no remainder in which divisor is a one digit number and the dividend is 2, 3, or 4 digits.		190-191	207	262-263, 394-395
251. Calculate quotients, with remainders, in which the divisor is a one digit number and the dividend is 2, 3, or 4 digits.	DIV - 5	192-196, 198-203, 210-211, 214, 227, 316, 404, 405	210-219, 220, 237	252-255, 257, 298-299, 394-395
252. Calculate quotients in which the divisor is a multiple of 10 and the dividend is a 2, 3, or 4 digit multiple of 10.		318-321, 331, 412	226-229, 237, 386, 387, 388, 389	302-303, 398
253. Prove the solution of a division problem through the inverse operation, multiplication.	DIV - 6	110-111	128, 129	112

Level 4 (continued)

FRACTIONS, DECIMALS	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
254. Identify terms related to fractions: numerator, denominator, equivalent fraction.		220, 224	242-243, 246	158, 162
255. Identify fractional parts of a given object up to tenths.	FD - 6-8	220-221, 292	290, 291	158-159, 182, 183, 388, 389
256. Identify fractional parts of a given set up to tenths.	DIV - 8-9	220-222	242, 243, 244, 245	160-161, 182, 183, 388, 389
257. Write fractional numbers up to tenths.	FD - 8-9	220-223	242-247, 252	158-159, 160-161
258. Identify equivalent fractional parts of a whole up to 6/6.	FD - 5	224-227, 230-231, 242, 251, 292	246-247	162-163, 388
259. Identify equivalent fractions up to 6/6.		224-227, 230-231, 242, 251, 292	246-253	164-165, 388
PROBLEM SOLVING AND APPLICATION				
260. Identify which of the four basic operations should be used in solving word problems.		16, 113, 58, 75, 183, 207	12-13, 22, 369	30, 31, 60-61, 114-115, 116, 122, 385
261. Solve statement problems where a sequence of operations is involved.	PS - 4	16, 33, 58, 67, 75, 109, 115, 119, 197, 207, 211, 299, 311, 327, 329, 335, 356, 359, 375	224-225, 387	150-151, 152-153

Level 4 (continued)

PROBLEM SOLVING AND APPLICATION (continued)	ACTIVITIES GUIDE	REFERENCES ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
262. Use multiplication to solve word problems.		85, 88, 91, 96, 114-115, 122-123, 133, 174-175, 182-183, 197, 334-335, 355, 358-359, 375	113-115, 170, 179, 181, 183, 185, 188-189, 193, 195, 197, 199, 200, 201, 202, 236, 381, 383	103, 107, 111, 131, 135, 150-151, 219
263. Use division to solve word problems where the divisor is one digit.		113-115, 122-123, 133, 153, 175, 197, 207, 210-211, 237, 299	125, 131, 133, 170, 207, 209, 211, 213, 215, 217, 219, 236, 381	107, 109, 111, 141, 145, 147, 251, 261, 266-267, 395
MEASUREMENT				
264. Determine appropriate units of linear measure within the metric system. (mm, cm, dm, m, km)		141, 264	144-145	80-81, 92-93, 126, 382-383
265. Use metric units of linear measure. (mm, cm, dm, m, km)		138-141, 264	142-143, 144-145	78-79, 126, 382-383
266. Show relationships between metric units of linear measure. (mm, cm, dm, m, km)		138-141, 264	146	80-81, 92-93, 126, 382-383
267. Determine appropriate units of linear measure within the English system. (inch, foot, yard, mile)		368, 369	166	86-87, 382-383
268. Use English units of linear measure (inch, foot, yard, mile).		368-371, 373, 380, 382	164-165	86-87
269. Show relationships between English units of linear measure (inch, foot, yard, mile).	MNT - 15-17	368-371, 373, 380, 382	166, 350, 394	86-87
270. Measure length to the nearest half-inch.	MNT - 18	370, 371	164-165	190-191

Level 4 (continued)

	REFERENCES			
MEASUREMENT (continued)	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
271. Find the perimeter of a given object without the use of a formula.	MNT - 19	142-143, 264, 372-373, 380, 382	316-317	202-203, 390-391
272. Identify the milliliter as a unit of capacity.		148-149, 264	147	84-85, 382-383
273. Identify the milligram as a unit of mass.		T.D.A.	T.D.A.	T.D.A.
274. Identify the metric symbols (mm, cm, dm, m, km, ml, l, mg, kg, g).		138-141, 148-150	146-149	80-85
275. Count square centimeters, decimeters, and meters to find areas.	MNT - 20	144-145, 156, 264	318-319	204-207, 212-213, 390-391
276. Count square inches, feet, and yards, to find areas.	MNT - 21	T.D.A.	T.D.A.	T.D.A.
277. Count cubic centimeters to find volume.	MNT - 21	147	326-327	358-359, 364-365, 402
278. Count cubic inches to find volume.		T.D.A.	T.D.A.	T.D.A.
GEOMETRY				
279. Identify solid geometric shapes (cylinder, cone, cube, sphere, pyramid).	GEO - 20-29	266-267, 316	324-325, 329	354-357
E280. Identify the pentagon, hexagon, and octagon.	GEO - 10	268-269, 316	T.D.A.	198, 390-391
E281. Construct known geometric shapes to definite dimensions using geometric tools.	GEO - 10-16	T.D.A.	309	T.D.A.

Level 4 (continued)

SPECIAL TOPICS	ACTIVITIES GUIDE	REFERENCES: ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
282. Solve addition and subtraction problems involving money.	SP - 22	52-55, 60-65, 68-73, 77, 87, 106, 128, 149, 188, 350-353, 395, 396	70, 76, 95, 375, 378	61, 74-75, 90-91, 243, 372
283. Make change up to $1.00.	SP - 22	42-43	96-97, 102	73, 128
284. Tell time by one minute intervals.	SP - 23-24	130-131, 134-135, 169, 218	158-159, 281	T.D.A.
285. Write the time in time notation to the one minute interval.	SP - 24-25	130-131, 134-135, 169, 218	158-161, 281	T.D.A.
286. Identify relationship between hours, minutes, and seconds.	SP - 25	130-131, 134-135, 169, 218	232-233	277
287. Identify the relationshp between year, decade, and century.		T.D.A.	233	275
E288. Identify and connect the number pairs (coordinates) corresponding to given locations on a graph.	SP - 26-27	284, 285	344-345	196-197, 211, 390-391
E288A. Read and interpret pictographs.		89, 282-283	334-335, 340	223
E288B. Read and interpret bar graphs.		280-281	336-337, 340	24-25, 32, 33, 186
E288C. Read and interpret circle graphs.		236, 258	338-339, 340	T.D.A.

Level 5

NUMBERS, NUMERATION, PLACE VALUE	ACTIVITIES GUIDE	REFERENCES ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
289. Read numbers up to twelve digits.	NNPV - 42	28-35, 46, 74, 102, 130	2-8	12-15, 378-379
290. Write numbers up to twelve digits.	NNPV - 42	28-35, 46, 74, 102, 130	2-8, 21, 22	12-15, 378-379
291. Identify place value up to twelve digits.		28-35, 46, 74, 102, 130	2-8, 21, 22	12-15
E292. Read numbers larger than twelve digits.	NNPV - 42	T.D.A.	T.D.A.	T.D.A.
E293. Write numbers larger than twelve digits.	NNPV - 42	T.D.A.	T.D.A.	T.D.A.
E294. Identify place value beyond twelve digits.		T.D.A.	T.D.A.	T.D.A.
295. Define prime numbers.		159	124-125	143, 148-149
296. Recognize prime numbers from 1 to 50.	NNPV - 44-46	159	124-125	143, 148-149
E297. Read the Roman numerals from 1 to 1,000.	NNPV - 43-44	37, 389	18-19	228-229
E298. Write the Roman numerals from 1 to 1,000.	NNPV - 43-44	37, 389	18-19	228-229
MULTIPLICATION - (WHOLE NUMBERS)				
299. Write the multiplication facts 0 through 12 X 12.	MULT - 25-26	10-15, 19, 22, 35, 104-105, 117, 414	74-75	64-65, 382-383
300. Multiply a four or more digit number by a two digit number.		114-117, 122, 128, 129, 195, 420	92, 93, 382, 383	96-97, 384-385
301. Multiply a three digit number by a three digit number.	MULT - 26-27	120-122, 421	94-95, 99, 100, 382, 383	98-99, 384-385

Level 5 (continued)

DIVISION -(WHOLE NUMBERS)	REFERENCES			
	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
302. Estimate divisors and quotients.	DIV - 7	134-135, 147, 421	140	140-141, 386-387
303. Divide a whole number by any smaller two digit number with no zero in the quotient.	DIV - 8	162-169, 172-173, 179, 184, 195, 424	132-133, 385	126-131, 386-387
304. Divide a whole number by any smaller two digit number with zeros in the quotient.	DIV - 8	174-175, 176-177, 179, 183, 184, 424, 425	132-142, 144-145, 153-154, 386-388, 331	132-139, 386-387
305. Compute averages of whole numbers.	DIV - 12-13	152, 153, 158, 423	146-147	344-345, 402-403
FRACTIONS, DECIMALS				
306. Identify the terms related to fractions (denominator, numerator, proper fraction, equivalent fraction, improper fraction, and mixed number).		220, 222, 234, 235	192-198, 202, 224	182, 186-193, 390-391
307. Add fractions with like denominators.	FD - 12-13	232-233, 246, 426	220-221, 390	206-207, 392-393
308. Subtract fractions with like denominators.	FD - 12-13	232-233, 246, 426	234-235, 392	206-207, 392-393
309. Find the greatest common factor.	FD - 13	224-225, 425	204-205, 215, 216, 389	142-143, 188, 193, 386-387
310. Find the least common multiple.	FD - 14-18	236-237, 427	200-201, 389	106-107, 384-385
311. Complete a set of equivalent fractions in sequence.	FD - 18-19	222-223, 246, 426	196-197, 389	186-187
312. Locate the lowest term fraction in a set of equivalent fractions.		T.D.A.	T.D.A.	188-189, 390-391

Level 5 (continued)

FRACTIONS, DECIMALS (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
313. Reduce a fraction to lowest terms.	FD - 20-21	226-227, 237, 426	205-207, 215, 216, 390	188-189, 390-391
314. Add fractions with unlike denominators.	FD - 21-22	238-239, 246, 250-251, 254-255, 262-263, 267, 268, 300, 305, 320, 325, 342, 427, 428, 430	222-223, 226-232, 253, 254, 271, 301, 391, 392	208-209, 392-393
315. Subtract fractions with unlike denominators.	FD - 21-22	240-241, 246, 250-251, 258-263, 267, 268, 300, 305, 320, 325, 342, 428, 429, 430	234-236, 238-240, 253-254, 271, 301, 392-393	214-215, 392-393
316. Rename a whole number as an improper fraction.	FD - 23	T.D.A.	T.D.A.	T.D.A.
317. Convert improper fractions to mixed numbers.	FD - 23-25	234, 253, 257, 291, 427	225, 253, 254	192-193, 390-391
318. Convert mixed numbers to improper fractions.	FD - 23-25	235, 253, 257, 291, 427	224, 253, 254	194-195, 390-391
319. Identify decimal place values up to hundredths.		76-79, 98	290-293, 300, 317, 396	264-269, 396-397
320. Read decimals up to hundredths.		76-79, 98	290-292, 300, 317, 396	264-269, 396-397
321. Write decimals up to hundredths.		76-79, 98	290-293, 296, 300, 317, 396	264-269, 396-397

Level 5 (continued)

FRACTIONS, DECIMALS (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
322. Add and subtract decimal numbers up to hundredths.	FD - 42-43	88-91, 98, 113, 205, 345, 418, 419	304-307, 310-313, 317-318, 396, 397	278-279, 396-397
PROBLEM SOLVING AND APPLICATIONS				
323. Solve word problems involving an interaction of addition and subtraction.	PS - 5	20, 69	86-87	T.D.A.
324. Solve word problems involving an interaction of multiplication and division.	PS - 6	T.D.A.	T.D.A.	T.D.A.
325. Solve simple word problems by addition or subtraction of fractions.		242-243, 252, 264-265, 306-307	221, 223, 227, 231, 235, 239	30, 31, 185, 189, 193, 207, 374, 379
MEASUREMENT				
326. Identify the fractional values for metric prefixes: milli, centi, deci, deka, hecto, and kilo.		188-195, 337	158-163, 165, 168, 170-171	48-51, 380-381
327. Convert metric units using the prefixes milli, centi, deci, deka, hecto, and kilo.	MNT - 23	188-195, 337	159, 162, 165, 168, 171	46, 48-51, 308-309, 380, 381, 398
328. Measure length in English to the nearest one-quarter inch.	MNT - 24-26	388-389	T.D.A.	196, 390-391
329. Calculate areas of squares and rectangles.	MNT - 26	198-199, 214, 225, 394	322-323, 339	170-171, 237, 388-389
330. Calculate volumes of rectangular solids.		200, 201, 395, 423	328-330	332-333, 400-401

Level 5 (continued)

GEOMETRY	ACTIVITIES GUIDE	REFERENCES: ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
E331. Identify acute, obtuse, right and straight angles.	GEO - 17	274, 275, 276, 277	262-263, 266	156-157, 163, 388-389
E332. Define the concept "congruent."	GEO - 17-20	286, 287	283	320-321, 400-401
E333. Define the concept "perpendicular."		T.D.A.	262	158-159, 388-389
SPECIAL TOPICS				
334. Solve multiplication problems involving money where the multiplier is a whole number.	DIV - 9-12	110, 111	83, 86-87, 93, 95, 99, 100, 114, 115, 383	100-101, 102-103, 116, 119, 122, 384-385
335. Solve division problems involving money where the divisor is a whole number.	DIV - 9-12	148, 149, 176, 331	109, 145, 387	101, 103, 116, 122, 138-139, 386-387
336. Add and subtract hours, minutes, and seconds.	SP - 28	208, 209, 210	176-177, 187	56-57, 381
337. Add and subtract days, weeks, months, and years.	SP - 28-30	T.D.A.	178-179	T.D.A.
E337A. Read and make bar graphs.		42, 191, 344, 345, 346, 347, 354, 355, 356, 357	346, 347	345, 346, 347, 403
E337B. Read and make line graphs.		153, 344, 345, 352, 353, 354, 355	348, 349	350, 351, 403
E337C. Read and make circle graphs.		94, 344, 345, 350, 351	350, 351	254, 255, 403
E337D. Read and interpret pictographs.		344, 345, 348, 349	344, 345	T.D.A.
E337E. Locate a point for a given number pair and write a number pair for a given point.		292-293, 299 365	356, 357	348, 349

Level 6

NUMBERS, NUMERATION, PLACE VALUE	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
338. Round numbers to a given place.	NNPV - 51	30-31, 412	14-15, 19, 20, 376	34-39
E339. Compare numbers in the base 10 system to those in other base systems.		T.D.A.	25	80-81
E340. Read numbers in base systems other than base 10.	NNPV - 51-52	T.D.A.	25	80-81
E341. Write numbers in base systems other than base 10.	NNPV - 51-52	T.D.A.	25	80-81
E342. Convert base 10 numbers to another base system.	NNPV - 52-53	T.D.A.	25	80-81
E343. Convert numbers in a base system other than base 10 numbers.	NNPV - 52-53	T.D.A.	T.D.A.	80-81
ADDITION - (WHOLE NUMBERS)				
344. Demonstrate the correct use of brackets and parentheses in mathematical statements.		11	T.D.A.	T.D.A.
E345. Apply the terms communtative, associative, and distributive principles to operations for whole and fractional numbers.	ADD - 28	2-3, 5, 80	24, 45-46	8-9, 60-62
MULTIPLICATION - (WHOLE NUMBERS)				
346. Use prime factorization to solve given problems.	MULT - 28	113, 117, 165	96, 97, 382	90-91
347. Use exponents to simplify the writing of expressions with several factors.	MULT - 28	92-93, 115	70	74-75, 80-81, 382-383

Level 6

DIVISION - (WHOLE NUMBERS)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
348. Solve division problems with three digit divisors.		129, 143, 418	118-120	102-103, 384-385
349. Convert remainders to proper fractions.		200	206-207	T.D.A.
FRACTIONS, DECIMALS				
350. Add mixed numbers and reduce answers to lowest terms.		204-205, 210-211, 220, 229, 298, 423-424	212-213, 225-226, 242, 391, 392	242-243, 394, 395
351. Subtract mixed numbers and reduce the answer to lowest terms with no regrouping.	FD - 26	204-205, 212-215, 220, 229, 250, 298, 423-424	220-221, 225-226, 242, 391 392	246-247, 394, 395
352. Subtract fractions or mixed numbers from whole numbers and reduce answers to lowest terms.		212-215	220-221, 225-226, 242, 391, 392	248-249, 394, 395
353. Subtract mixed numbers with regrouping and reduce the answers to lowest terms.		214-215, 220, 229, 250, 298, 424	220-221, 225-226, 242, 391, 392	248-251, 394, 395
354. Multiply fractions by proper fractions.	FD - 27-29	228-231, 248, 276, 281, 320, 425	230-231, 247-248	262-265, 396, 397
355. Multiply fractions by whole numbers.	FD - 27-29	228-231, 248, 276, 281, 320, 425	230-234, 247-248, 392	260-261, 396, 397
356. Multiply fractions by improper fractions and reduce products to lowest terms.	FD - 29-30	231	T.D.A.	T.D.A.
357. Multiply fractions by mixed numbers and reduce the products to lowest terms.	FD - 29-30	232-233, 248, 287	232-233, 247-248, 263, 392	266-267, 396, 397

Level 6 (continued)

FRACTIONS, DECIMALS (continued)	ACTIVITIES GUIDE	REFERENCES: ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
358. Multiply mixed numbers by mixed numbers and reduce products to lowest terms.	FD - 29-30	232-233, 248, 276, 281, 287, 320, 425	233-234, 247-248, 392	266-267, 396, 397
359. Divide fractions by proper fractions and reduce quotients to lowest terms.	FD - 31-34	240-241, 248, 276, 281, 287, 320, 426	237, 247, 248, 263	272-273, 396, 397
360. Divide fractions by whole numbers (or the inverse) and reduce quotients to lowest terms.	FD - 31-34	240-241, 248, 276, 281, 426	237, 247, 248, 263, 392	268-271, 396, 397
361. Divide fractions by improper fractions and reduce quotients to lowest terms.		T.D.A.	T.D.A.	T.D.A.
362. Divide mixed numbers by fractions (or the inverse) and reduce quotients to lowest terms.	FD - 31-34	242-243, 248, 276, 287, 426	238-239, 247, 248, 392	274-275, 396, 397
363. Divide mixed numbers by whole numbers (or the inverse) and reduce quotients to lowest terms.		242-243, 426	238-239, 247-248, 263, 392	274-275, 396, 397
364. Divide mixed numbers by mixed numbers and reduce the quotient to lowest terms.		242-243, 248, 281, 287, 320, 426	238-239, 247-248, 263, 392	274-275, 396, 397
365. Identify decimal place values up to the thousandths place.	FD - 38-39	54-57, 76, 87, 106, 166	130-133, 146, 165-166, 385	122-125, 386, 387
366. Read decimals up to thousandths.	FD - 38-39	54-57, 76, 87, 106, 166	130-131, 134-137, 146, 166, 385	122-125, 386, 387
367. Write decimals up to thousandths.	FD - 38-39	54-57, 76, 87, 106, 166	130-131, 146, 165-166, 385	122-125, 386, 387
E368. Read decimal numbers up to millionths.		57-59	130-134	124-125, 156-157
E369. Write decimal numbers up to millionths.		57-59	130-134	124-125, 156-157

Level 6 (continued)

FRACTIONS, DECIMALS (continued)	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
370. Round off decimals up to thousandths.	FD - 39-42.	150-151	138-139, 386	134-137, 152-153, 159, 189, 345
371. Add decimal numbers in horizontal and vertical form.	FD - 42-43	64-65, 76, 95, 106, 159, 166, 415	140-143, 146, 165-166, 386	128-129, 132-133, 386, 387
372. Subtract decimal numbers in horizontal and vertical form.	FD - 42-43	66-67, 76, 95, 106, 159, 166, 415	144-146, 165-166, 386	130-133, 386, 387
373. Multiply decimal numbers by 10, 100, 1000.	FD - 44	144-145, 159, 164, 174, 175, 192, 250	154-155, 387	156-157, 389
374. Multiply decimal numbers.	FD - 44-46	140-145, 160, 164, 183, 192, 250, 309, 337, 416, 419	152-153, 165-166, 387	148-151, 388, 389
375. Divide decimal numbers by whole numbers.	FD - 47-48	148-153, 160, 183, 192, 205, 250, 420	156-157, 165-166, 388	154-155, 388, 389
376. Divide decimal numbers by tenths.	FD - 49-51	158-159, 164, 192, 421	158-160, 388	158-159, 388, 389
377. Divide decimal numbers by hundredths.	FD - 49-51	158-159, 164, 421	158-160, 165-166, 388	160-161, 388, 389
378. Match fractions to equivalent decimal numbers: 1/10, 1/5, 1/4, 1/2, 3/4.	FD - 52	236-238, 248, 276, 315, 316, 320	162, 388	216-219, 392, 393
379. Write fractions as decimal numbers: 1/10, 1/5, 1/4, 1/2, 3/4.	FD - 52-54	236-238, 248, 276, 315, 316, 320	162, 286, 292, 303, 388	216-219, 392, 393

Level 6 (continued)

FRACTIONS, DECIMALS (continued)	ACTIVITIES GUIDE	REFERENCES: ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
E380. Restate fractions and decimals using 1/20, 1/5, 1/4, 1/2, 3/4.	FD - 55-56	301-306, 308-312, 315-316, 325-326, 337, 344, 349, 384	286-288, 303-304, 388	296-297, 300-301, 398
E381. Perform percent computation using the equivalent percent of the fraction: 1/10, 1/5, 1/4, 1/2, 3/4.	FD - 57-62	301-306, 308-312, 315-316, 325-326, 337, 344, 349, 384, 426	288, 303-304, 394, 395	298-299, 398, 399
PROBLEM SOLVING				
382. Solve word problems involving interactions of the basic four operations for whole numbers.	PS - 8-9	8-9, 12-13, 45, 71, 99, 125, 147, 179, 181, 313, 335, 351, 377, 395	61, 79, 85, 89, 141, 149, 153, 157, 185, 295, 393	26-27, 52-53, 76-77, 106-107, 138-139, 220-221, 334-335, 362-363
383. Use the four basic operations to solve for the unknown.	PS - 9	10, 15, 17, 65, 231	24, 51, 97, 247, 393	10-11, 194-195, 378
384. Use the four basic operations to solve word problems using fractions and mixed numbers.	PS - 9-10	203, 206, 234-235, 244-245, 293, 313, 315	201, 213, 219, 221, 223-226, 231, 233, 237, 239	209, 213, 245, 247, 249, 251, 261, 263, 267, 269, 271, 273
385. Use the four basic operations to solve word problems using decimal numbers.	PS - 10-12	63, 69-73, 154-155, 161, 351, 377, 395, 397	141, 143, 153, 159	168-169, 252-253, 267-268, 306-307
E386. Use formulas for time, rate, and distance to solve word problems.	PS - 7-8	T.D.A.	124, 194, 385	306-307

Level 6 (continued)

MEASUREMENT	REFERENCES: ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
387. Identify the decimal equivalent of the metric prefixes milli, centi, deci, deka, hecto, and kilo.	MNT - 30-31	168-181, 190, 197, 224, 328-329	170-176	44-47, 380, 381
GEOMETRY				
E388. Construct an angle using a straight edge and compass.	GEO - 30	255-257, 275	269	178-179
E389. Measure angles using a protractor.	GEO - 30-32	254-255	269, 279-280	178-179
E390. Identify right, equilateral, isosceles, and scalene triangles.	GEO - 33-36	258-259, 274, 298, 344	268	184-185
E391. Find the area of a triangle using the formula $A = \frac{1}{2} bh$.	GEO - 37	352-353, 384	310-313, 316	190-191
E392. Identify diameter, circumference, radius, and arc.		263, 274, 297-298, 344, 348-349	272-273, 279-280	188-189
E393. Find the volume of a rectangle solid using the formula V = lwh.	GEO - 38-39	358-359, 373, 384, 393	326-327, 331-332, 397	324-325, 400, 401
SPECIAL TOPICS				
394. Interpret bar, circle, and line graphs.	SP - 31-38	98, 307, 322-323, 326-329, 330-331, 333, 342, 364	338-341, 344-345, 348, 361	346-351, 402, 403
395. Construct bar, circle, and line graphs.	SP - 31-38	323, 325, 327, 329	342-343	347, 349
395A. Read and interpret pictographs.		324, 325	346-347	58

Level 6 (continued)

SPECIAL TOPICS (continued)	REFERENCES			
	ACTIVITIES GUIDE	ADDISON WESLEY	HOLT	HOUGHTON MIFFLIN
E396. Use ordered number pairs to graph points on a coordinate plane.	SP - 38-39	268-269, 287, 378-379	358-359, 361-362	360-361
E397. Solve probability problems.	SP - 39-41	336-337, 364	298-299	292-295, 398, 399
E398. Perform four basic operations of whole and decimal numbers using a pocket calculator.		20-21, 27, 97, 129, 151, 161, 317, 383	9, 32, 58, 87, 113, 151, 207, 211, 245, 259, 287, 311, 319, 345	17, 37, 69, 85, 149, 163, 189, 211, 219, 249, 273, 301, 327